

## TECHNOLOGY EDUCATION STANDARDS

(adopted 9/25/00)

### ***STANDARD 1: FUNDAMENTAL OPERATIONS AND CONCEPTS***

Students understand the operations and function of technology systems and are proficient in the use of technology.

#### **READINESS (Kindergarten)**

*Students know and are able to do the following:*

- **1T-R1. Communicate about basic technology components using developmentally appropriate and accurate terminology**

PO 1. Use basic vocabulary related to the use of technology (e.g., mouse, keyboard, monitor, toolbar, menu, window, folder, icon, spreadsheet, word processor, cassette player, CD player versus DVD versus video tape, video camera)<sup>1</sup>

PO 2. Identify the components of a computer (e.g., mouse, keyboard, monitor, CPU, printer)

- **1T-R2. Use input devices and output devices successfully to operate computers, VCRs, audiotapes, and other technologies**

*See: Workplace Skills (7WP-R1)<sup>2</sup>*

PO 1. Demonstrate start up and shut down procedures of basic technology components (e.g., computers, tape recorders, cassette players, VCRs)

PO 2. Use devices to complete a task (e.g., mouse, keyboard, printer, remote control, microphone)

<sup>1</sup>Items following “e.g.,” are provided as examples/suggestions and, therefore, are not all-inclusive.

<sup>2</sup>The use of cross-references to the other Arizona Academic Standards is intended to emphasize that technology is seen as an **integrated** component of the educational and learning process. Teachers may find additional opportunities for integrating the Technology Standards with other academic standards.

## FOUNDATIONS (Grades 1-3)

*Students know and are able to do all of the above and the following:*

- **1T-F1. Communicate about internal technology operations using developmentally appropriate and accurate terminology**

*See: Language Arts (VP-F), Science (ISC-F4, PO1-2) and Workplace Skills (1WP-F5)*

PO 1. Apply basic vocabulary related to the internal operations of the technology (e.g., disks, drives, RAM, ROM, CD-ROM port, CD-ROM and DVD)

- **1T-F2. Demonstrate functional operation of technology components**

*See: Comprehensive Health {Physical Activities} (1PA-F1) and Workplace Skills (7WP-F2)*

PO 1. Demonstrate correct ergonomic use of technology (e.g., correct posture, position of hands and feet, proper height of keyboard, proper lifting and moving of equipment)

PO 2. Use multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias)

PO 3. Access information sources (e.g., CD-ROMs, encyclopedias, pre-bookmarked Internet sites)

PO 4. Communicate electronically, under teacher supervision (e.g., video, audio, e-mail)  
*(For Internet safety protocols see Technology 2T-F2, PO1)*

- **1T-F3. Use developmentally appropriate technology resources to access information and communicate electronically**

*See: Language Arts (VP-F), Mathematics (1M-F7) and Workplace Skills (7WP-F1)*

PO 1. Operate keyboard and other common input and output devices (including adaptive devices for special needs when necessary)

a) Use device in response to software (e.g., point and click, arrow and enter/return keys)

b) Use keyboard effectively (e.g., knows locations and function of keys, begins touch-typing strategies by grade three)

PO 2. Retrieve and save information (e.g., text documents, digital photos, music, video)

PO 3. Print documents, text or image

## ESSENTIALS (Grades 4-8)

*Students know and are able to do all of the above and the following:*

- **1T-E1. Communicate about technology using developmentally appropriate and accurate terminology**

*See: Language Arts (VP-E)*

- PO 1. Use basic vocabulary related to technology (e.g., FireWire, USB, parallel, serial, scanning, digitizing, OCR)
- PO 2. Use basic vocabulary related to systems (e.g., network, infrastructure, Internet, Intranet, LAN, WAN, Ethernet, firewall, server, TCP-IP)

- **1T-E2. Demonstrate increasingly sophisticated operation of technology components**

*See: Arts {Music} (1AM-E9-10), Mathematics (1M-E6, 2M-E1), Science (1SC-E2) and Workplace Skills (7WP-E1)*

- PO 1. Use touch-typing strategies to reach a minimum of 25 words per minute with accuracy (e.g., meets school-identified standard for accuracy)
- PO 2. Retrieve and save information remotely (e.g., network servers, Internet, Intranet, peripheral devices)
- PO 3. Demonstrate functional operation of technology devices (e.g., presentation devices, digital cameras, scanners, document cameras, scientific probes) (*See Technology 3T-E2, PO1*)

- **1T-E3. When a system is not working properly, demonstrate an understanding of hardware, software and connectivity problem solving processes**

*See: Science (1SC-E1)*

- PO 1. Use troubleshooting strategies to solve applications problems (e.g., file management strategies, online help strategies, documentation, collaboration with others)
- PO 2. Use troubleshooting strategies to solve basic hardware problems (e.g., use online help, use documentation, collaboration with others)
- PO 3. Use troubleshooting strategies to identify basic connectivity problems (e.g., use online help, use documentation, collaboration with others)

## **PROFICIENCY (Grades 9-12)**

*Students know and are able to do all of the above and the following:*

- **1T-P1. Use the appropriate technology device to complete a task**  
*See: Mathematics (3M-P1 and P3, 4M-P2)*

PO 1. Given a task, select the appropriate technology device(s) (e.g., reporting a news story using digital and video camera and online editing to publish on the Web; gathering data using scientific probes and graphing calculators)

- **1T-P2. Make informed choices among technology systems, resources and services**  
*See: Arts {Music} (1AM-P10) and Language Arts (VP-P)*

PO 1. Create criteria to compare and contrast technology systems, resources and services (e.g., which Internet service provider, music system, Web browser or graphics package meets criteria)

## **DISTINCTION (Honors)**

*Students know and are able to do all of the above and the following:*

- **1T-D1. Manage a complex technology system such as a local area network, video distribution of a school, or lighting for a production**  
*See: Arts {Theatre} (1AT-D4, D8-9)*
- **IT-D2. Set up and manage a homework hotline, tutoring site, discussion group, threaded discussion and/or e-mail system for students and parents**